

Technical Memorandum

To: Stuart Craig, RioCan
 Copy: Rosanna Baggs, City of Ottawa
 From: André Sponder/Mark Baker, P.Eng.

Date: 1 February 2018
 Project: 476615

**Re: 8555 Campeau Drive – Tanger Outlets
 Commercial Buildings 14 and 15**

1. INTRODUCTION

From the information provided, RioCan is proposing to construct two new commercial buildings located in the southwest corner of the Tanger Outlet complex. The two proposed buildings are understood to be a 2,200 ft² fast-food restaurant and a 5,000 ft² sit-down restaurant. Tanger Outlets, which is located north of HWY 417 at the Palladium interchange, has three existing vehicle accesses; a right-in/right-out driveway to Palladium Drive, a signalized full-movement driveway to Campeau Drive and a right-in/right-out driveway to Huntmar Drive.

Given the type of land uses proposed and the location of the two proposed buildings within an established shopping centre complex, no significant traffic impact is projected related to these two proposed buildings. Through discussions with the appropriate City Staff (Rosanna Baggs), it was agreed that this Technical Memorandum would be prepared to discuss the type of trips expected to be generated and assess the on-site vehicle and pedestrian connections.

2. PROJECTED SITE-GENERATED TRIPS

Appropriate trip generation rates for the proposed development consisting of approximately 2,200 ft² of fast-food restaurant with drive-through and 5,000 ft² sit-down restaurant were obtained from the ITE Trip Generation Manual (9th edition) and are summarized in Table 1.

Table 1: ITE Trip Generation Rates

Land Use	ITE Land Use Code	Trip Rates	
		PM Peak	SAT Peak
Fast-Food Restaurant with Drive-Through	ITE 934	T = 32.65(X)	T = 59.00(X)
Quality Restaurant	ITE 931	T = 7.49(X)	T = 10.82(X)

Notes: T = Average Vehicle Trip Ends
 X = 1000 ft² Gross Floor Area

As ITE trip generation surveys only record vehicle trips and typically reflect locations with little to no access by travel modes other than private automobiles, adjustment factors appropriate to the study area context were applied to attain estimates of person trips for the proposed development.

To convert ITE vehicle trip rates to person trips, an auto occupancy factor and a non-auto trip factor were applied to the ITE vehicle trip rates. Based on the TIA Guidelines and our review of available literature, a combined factor of approximately 1.28 is considered reasonable to account for typical North American auto occupancy values of approximately 1.15 and combined transit/non-motorized modal shares of 10%. As such, the person trip generation for the proposed restaurant development is summarized in Table 2.

Table 2: Modified Person Trip Generation

Land Use	Area	PM Peak (Person Trip/h)			SAT Peak (Person Trip/h)		
		In	Out	Total	In	Out	Total
Fast-Food Restaurant	2,200 ft ²	47	45	92	84	82	166
Quality Restaurant	5,000 ft ²	32	17	49	41	29	70
Total Person Trips		79	62	141	125	111	236

As shown in Table 2, the two proposed restaurant sites are projected to generate approximately 140 to 235 person trips per hour during the weekday afternoon and Saturday peak hours. These person trips were then reduced by modal share values and pass-by values based on the site’s location and proximity to adjacent communities, employment, shopping uses and transit availability. Modal share and pass-by values for the proposed development are summarized in Table 3. It should be noted that the pass-by trips are projected for the future condition, when the Kanata West development lands are more built-out and there are higher volumes of traffic travelling along Palladium Drive and Campeau Drive related to other area retail, business and residential developments.

Given the type of land uses (restaurants) and their location within a large shopping complex, it is anticipated that the majority of people trips generated by the restaurants will be travelling to/from the Tanger Outlets. These are considered ‘internal trips’ and have been accounted for by using the ITE Trip Generation Manual internal trip reduction rates. Identified in the ITE Manual for trips between two retail developments on the same site is a 30% reduction rate (a reduction rate between retail and restaurant sites is not provided). Given the context of the restaurants, proposed within an already established large retail complex, the 30% reduction rate is considered low for this specific site. However, using this rate is considered very conservative, resulting in a higher amount of vehicle trips, and as such was applied to the trip generation analysis below.

Table 3: Site Trip Generation

Travel Mode	Mode Share	PM Peak (Person Trips/h)			SAT Peak (Person Trips/h)		
		In	Out	Total	In	Out	Total
Auto Driver	65%	52	42	94	82	73	155
Auto Passenger	20%	17	13	30	25	22	47
Transit	10%	7	5	12	12	11	23
Non-motorized	5%	3	2	5	6	5	11
Total Person Trips	100%	79	62	141	125	111	236
<i>Internal Trip Reduction (30%)</i>		<i>-15</i>	<i>-13</i>	<i>-28</i>	<i>-25</i>	<i>-22</i>	<i>-47</i>
<i>Less Fast-Food Pass-by (50%)</i>		<i>-11</i>	<i>-11</i>	<i>-22</i>	<i>-19</i>	<i>-19</i>	<i>-38</i>
<i>Less Restaurant Pass-by (45%)</i>		<i>-5</i>	<i>-5</i>	<i>-10</i>	<i>-7</i>	<i>-7</i>	<i>-14</i>
Total ‘New’ Auto Trips		21	13	34	31	25	56

As shown in Table 3, the total number of ‘new’ vehicle trips projected to be generated by the proposed restaurants is approximately 35 and 55 veh/h during the weekday afternoon and Saturday peak hours, respectively. This amount of traffic is considered negligible with respect to the impact of the area transportation network and the site driveways. Similarly, the amount of transit and bike/walk ‘new’ trips will have no impact on the surrounding transportation network.

The total amount of person trips that will be travelling to/from the proposed restaurants on-site (from the outlet mall) is approximately 30 to 50 persons/hour (internal trips). As mentioned previously, this number of internal trips is considered very conservative and the number of internal trips is expected to be higher than projected (resulting in fewer ‘new’ vehicle

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trips). Given the high number of internal trips, appropriate pedestrian connections from Tanger Outlets to the proposed restaurants should be provided. The Site Plan review, including a review of pedestrian links is provided below.

3. SITE PLAN REVIEW

This section provides an overview of parking requirements, pedestrian and vehicle circulation, and drive-through circulation. The proposed Site Plan is attached as Appendix A.

Parking

A total of 76 parking spaces are proposed to serve the two restaurant buildings. This amount of parking meets the City's minimum requirements for parking with respect to the City's Zoning By-Law requirements. The parking space dimensions are noted to be 5.2 m in length and 2.6 m in width, which meets the City's By-Law requirements.

Site Circulation

With regard to on-site circulation, the proposed parking lot is laid out effectively, such that two-way traffic can be efficiently accommodated. The proposed drive aisle widths are noted as 6.7 m, which meets the City's By-Law requirements.

With regard to pedestrian circulation, efforts have been made to accommodate pedestrians travelling to/from the Tanger Outlet complex, as the majority of person trips to the proposed restaurants are expected to be on-site shoppers or employees of the adjacent retail development. A raised crosswalk is proposed connecting the northeast side of the site to the Tanger Outlets complex. A 2.0 m sidewalk is provided through the parking lot to connect to a raised crosswalk which provides connection to both restaurants along the buildings' frontages. Sidewalks are provided adjacent to both buildings to connect pedestrians to the entrances.

Drive-Through Circulation

With regard to the proposed fast-food restaurant drive-through, 16 queueing spaces are proposed, which exceeds the minimum City's By-Law requirement of 11 queueing spaces. If the drive-through queue spills back out of the queueing area, there is approximately 22 m of drive aisle in the parking lot for additional queueing (an additional 4 vehicles).

Bicycles

A total of 3 bicycle parking spaces should be provided for the two restaurants to meet the City's minimum bicycle parking requirement. Bicycle parking should be located close to the main entrance of buildings and be in well-lit areas.

4. CONCLUSIONS

The proposed restaurant buildings are projected to generate approximately 35 to 55 new veh/h during the weekday afternoon and Saturday peak hours. This equates to approximately 1 new vehicle every 1 to 2 minutes, which will have a negligible impact on the area transportation network. The majority of person trips projected to be generated by the proposed restaurant developments are expected to be travelling to/from the Tanger Outlet complex (i.e. shoppers and employees of the outlet mall will walk over to the restaurants). As such, appropriate pedestrian connections are proposed to/from the outlet mall, including raised cross-walks and a 2.0 m sidewalk through the parking lot. Bicycle parking spaces should be provided to meet the City's By-Law requirements.

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Based on the foregoing, the proposed Buildings 14 and 15, located within the Tanger Outlet complex, are expected to have a negligible impact on the area transportation network and as such, the buildings are recommended from a transportation perspective.

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